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ABSTRACT

The first paper in this volume, "What Must Be Done to Improve Teacher Education," which consists of remakrs delivered at the National Forum on Excellence in Education (Indianapolis, December 1983), notes that while a number of problems with teacher education have been identified, the proposed solutions lack the coherence and compatability needed to formulate an effective plan of reform. It is suggested that a national commission on teacher education be created to take a broad and objective view of the problems and potential solutions. The second paper, "Needed Research and Practice for the Preparation of Teaching Professionals," maintains that research and practice that will enhance teacher eduction in the future will be grounded in a profile of the effective teacher that acknowledges the professional requirements of the "school teaching" occupation. While some teaching requirements will always contain aspects of the performance that are labor-like, craft-like, and artistic in nature, the research and teacher preparation programs of the future will increasingly focus on the knowledge and information-processing skills that are requisite to informed professional decision making. Such knowledge and skill will be related to the complex inter-play of teacher judgments that are required for effective response to the multiple and diverse youngsters that attend school, and the multiple and competing functions that schools are expected to serve. (JD)

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Occasional Paper No. 79

THE FUTURE OF TEACHER EDUCATION: TWO PAPERS

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The IRT conducts major research projects aimed at improving classroom teaching, including studies of classroom management strategies, student socialization, the diagnosis and remediation of reading difficulties, and teacher education. IRT researchers are also examining the teaching of specific school subjects such as reading, writing, general mathematics, and science, and are seeking to understand how factors outside the classroom affect teacher decision making.

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Abstract

In the first paper, the author notes that people have identified a number of problems with teacher education and some possible solutions. While the problems raised are valid, the proposed solutions lack the coherence and compatability needed to formulate an effective plan of reform. The author suggests that the U.S. Department of Education create a National Commission on Excellence in Teacher Education to take a broad and objective view of the array of problems and potential solutions that are now thrown about like pieces of a jigsaw puzzle. In the second paper, she examines the evolving paradigms of effective teaching: (1) the teacher as effective person, (2) the teacher as skilled performer, and then (3) the teacher as professional decision maker. Teacher educators have, over time, tended to focus primarily on one paradigm at a time and generally not to attend to connections among them. While some teaching requirements will always contain aspects of performance that are labor-like, craft-like, and artistic in nature, the research and teacher preparation programs of the future will increasingly focus on the knowledge and information-processing skills that are requisite to informed professional decision making. The author argues that today's schools have come to need *professional* teachers and that today's teachers desperately need the capacities of professionals if they are to cope effectively with demands for school improvement. Well-educated teachers, not outside "experts," are in the best position to assess needs and design educational strategies best fitted to the specific characteristics of individual classrooms. The author concludes with the requirements for professional teachers: They must be highly knowledgeable, autonomous, and committed.

THE FUTURE OF TEACHER EDUCATION: TWO PAPERS

Judith E. Lanier[1]

WHAT MUST BE DONE TO IMPROVE TEACHER EDUCATION[2]

The preparation of teachers in the United States has been forever fraught with controversy and criticism. Such attention suggests that people care about the matter and are aware of the problems. The litany of problems typically cited and the solutions people usually suggest include the following:

--There are those who say the problem is one of insufficient time. Beginners are unable to acquire the complex array of knowledge and skills they need, so an extended period of time, such as a fifth year, is suggested.

--Others think inadequate attention is given to academic subjects, and often they suggest fewer courses in pedagogy and more courses in the major field of study.

--Others think there is insufficient opportunity for learning in school settings. They urge more field experience throughout the teacher education program.

--Then there are those who think that higher education cannot or will not provide adequate practical training, and so they suggest that the public schools do the job instead.

--Those who see the problem as discontinuity between theory and practice suggest closer relationships between elementary and secondary schools and higher education.

--Those who think that prospective teachers' mastery of basic skills is not adequately monitored suggest competency testing.

--Still others suggest that pedagogy courses are not scientific enough. They support more research-based knowledge in the curriculum.

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[1]Judith E. Lanier is associate director of the IRT, dean of MSU's College of Education, and acting dean of MSU's Lifelong Education Programs.

[2]This first paper consists of remarks delivered at the National Forum on Excellence in Education at Indianapolis, Indiana, on December 7, 1983.

--Many see the problem in the student group--not enough talent in the pool. They typically suggest scholarships or forgivable loans for the recruitment of more academically talented students to teaching.

--Still others note the relatively small financial base; teacher preparation programs are among the cheapest programs in higher education. Naturally they believe that more money would correct the problem.

--Others criticize the questionable knowledge base for teacher education and recommend more research and curriculum development.

--And others lament the fact that too many mediocre institutions of higher education are in the business of preparing teachers. Reasoning that those who don't receive a good education themselves will be quite unable to define one for their students, these reformers plead for qualitative reductions in the number (now over 1300) of colleges and universities allowed to prepare teachers.

One must acknowledge that there is validity to these frequently cited problems. I am not confident, however, about the potential of the suggested solutions for significant improvement. Individually, the suggested solutions fail to address a number of critical problems in teacher education; collectively, they lack the coherence and compatibility needed to formulate an effective plan of reform. Further, some of the major problems of teacher education continue to be overlooked, and I will address one of these standard oversights by way of example.

One, if not the major problem that makes change and improvement exceedingly difficult in teacher education is the diffuse nature of program responsibility and accountability. Too many warring factions control various small pieces of the enterprise. Consequently, each of the participating parties is weak and no single group is powerful enough to exercise responsible leadership that might significantly change the status quo. Coalitions rarely are possible, since the various actors share little mutual interest and trust. In my view, the situation is analogous to the current scene in war-torn Lebanon,

where numerous factions with multiple, contradictory, narrow, and self-interested concerns continue to fight and further a growing anarchy. The loser, of course, is the country as a whole.

Splintered groups within colleges and universities do battle with one another as they protect their own special curriculum interests. Whether it is the general liberal component of a teacher's education, the in-depth work in the disciplinary subject field, or the smallest piece of all, the theoretical and practical studies in education, isolation and protectionism reign.

Outside of academia, school administrators and teacher unions protect their interests when they exercise significant influence in the placement of student teachers. Similarly, classroom teachers exercise power and influence when they supervise practice teaching, which constitutes half of a secondary candidate's course work from the school of education. State boards of education and legislatures across the land respond to various political pressures and interests when they exercise control over certification requirements and program approvals. But few if any of these interested parties work to coordinate efforts and avoid working at cross purposes.

There are other complications, to be sure. It can be said, in summary, however, that everyone's interests get partial accommodation, with the exception of those of prospective teachers. Those who intend to teach are forced to proceed through a fragmented, splintered, and disassociated set of courses and experiences that do not add up to a coherent program of teacher preparation.

To begin addressing this and other major problems of teacher education, I would suggest that the U.S. Department of Education create a National Commission on Excellence in Teacher Education in the United States, comparable to that which recently examined elementary and secondary schooling. Such a

body could take a broad and objective view of the array of problems and potential solutions that are now thrown about like pieces of a jigsaw puzzle. The pieces will not come together by themselves to produce either systematic clarification of the problems or rational solutions. A thoughtful and prestigious commission could be helpful in this regard.

I would also suggest the creation (or re-creation) of a federal initiative that would support model programs across the country. This has never been done in a sustained manner and is needed for instituting multiple reforms in single locations--a necessary effort if reforms are to be studied and examined critically. Further, it is generally recognized that while the Flexner study and other factors were vital to the serious reform of medical education, the model program at Johns Hopkins University played a central and critical role in the improvement process.

Critical analyses, combined with collaborative efforts that promise to result in real-life exemplars of excellence, are needed now. While some institutions and some collections of institutions are working to these ends, they will need additional support. The task of improving the education of those who intend to teach is a truly complicated matter and I would urge your skepticism of views that would lead you to believe otherwise.

NEEDED RESEARCH AND PRACTICE FOR THE PREPARATION OF TEACHING PROFESSIONALS[3]

Discourse in the book this paper appears in focuses on the future of teacher education, with particular attention to needed research and practice. It is indeed important to look to the future, but in so doing one must look to the past and present as well, so that visions of the future are informed by experience and learning that has already occurred. Reflections and analysis of past and present research and practice in teacher education can also help frame more realistic views of future needs and possible responses. The assumption that guides this belief is that educational change, like most social change, evolves out of existing conditions; that is, it tends to be more evolutionary than revolutionary and will thus be determined in large part by past and contemporary research and practice.

Within the general context of considering future needs for research and practice in teacher education, however, the more particular focus requested for this paper was attention to "research on teaching and profiles of the effective teacher." Major attention is therefore given to various paradigms of the effective teacher that have appeared in recent past and present research and practice. As the changing views are described, the essence of the gradual shift in research and practice for teacher education is cast as a growing recognition that teaching requires preparation for a truly professional role. The increased need for professional teacher preparation and research on professional judgment is emphasized as three conceptions of the effective teacher are considered. Two conceptions have been obvious and prominent in

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[3]This paper was originally published in D.C. Corrigan, D.C. Palmer, & P.A. Alexander (Eds.), (1982), *The future of teacher education: Needed research and practice*, College Station, TX: Texas A & M University, College of Education.

the thinking and literature prior to the past decade and a third, gradually emerging, conception is represented in more contemporary thinking and literature on the subject of teaching. The three conceptions that appear to shape and form the profiles of effective teaching are as follows:

1. The teacher as an effective person. The most important pedagogical skills are imbedded in unique personal qualities and human characteristics.

2. The teacher as a skilled performer. The most important pedagogical skills are imbedded in the behavioral performance of smoothly orchestrated routines and actions.

3. The teacher as a professional decision maker. The most important pedagogical skills are imbedded in the exercise of informed human judgment that is grounded in a substantive body of formal and practical knowledge concerning the human endeavors of teaching, learning, and schooling.

These three general conceptions are represented in the literature and have paralleled the dominant research paradigms on effective teachers and teaching. Whether the research activity reflected or created the conceptions is most likely unimportant and unanswerable, like the classic argument over which came first, the chicken or the egg. However, the evolution of the conceptions appears to follow the development of an increasingly more complex, sophisticated, and respected knowledge base on the field of teaching itself.

A point of clarification is needed to avoid a potentially serious misinterpretation and should be emphasized before describing the research on teaching and practice in teacher education that reflect these conceptions. The point is that each conception is *not* distinguished by a total neglect of the others. Rather, each conception is distinguished by the salience of its point of interest (i.e., by the amount of attention and emphasis given to the particular aspect that was judged to be most promising and important at the time). Thus each conception is considered unique because of the primary questions and issues that were placed in the foreground, as opposed to the

background. Viewed in this light, the conceptions are not totally separate or mutually exclusive. Educators have and still do see aspects of each conception as worthy and important; but at various points in time, the field has generally attended more to one than another and has not generally attended to interactions among the three.

The Personal Characteristics of Teachers: Research and Practice

Research is always guided by views about where the most promising results might be found, and studies of effective teaching have been no different. The predominant focus of the early research on teaching was on the personal characteristics of teachers themselves. This line of work, in fact, might be described more correctly as research on teachers, than research on teaching. Nevertheless, the personal qualities of teachers were assumed to be of major importance to effective teaching, and if these characteristics could be identified, measured, and shown to be scientifically valid predictors of effective teaching, then they could be used appropriately for screening, selection, and retention purposes.

The more or less standard approach to inquiry in these early years was for prospective or practicing teachers to be tested, surveyed, and/or interviewed for purposes of describing their backgounds, personalities, attitudes, values, understandings, and beliefs. Supervisors' judgments (typically university faculty or school administrators) were used to identify the more and less effective teachers and then the teachers' personal characteristics were examined for comparison and contrast. The search was for unique personal qualities or characteristics that would consistently distinguish teachers judged to be more effective from those judged less effective by sets of external evaluators (Getzels & Jackson 1963; Biddle & Ellena, 1964).

Although this line of inquiry was generally unproductive for a relatively long period of time, its logical appeal caused researchers to attribute their failures to flaws in instrumentation or research design. They continued to pursue their basically unfruitful search for the personal attributes of "the good teacher" until Ryans's classic, exceptionally well-designed study of teacher characteristics was completed and reported in 1960. His work was so well done and yet so generally unproductive of useful findings that the field began to move away from this particular paradigm.

A number of standard practices in teacher education at this same time also supported the view that personal qualities were important, stable, and capable of being reliably measured for purposes of judging effectiveness in teaching. Student teaching evaluations often included ratings on such personal qualities as dress, grooming, punctuality, humor, tact, poise, commitment, friendliness, vitality, health, and acceptance of criticism. Moral character and respectable conformity to predominating social values were similarly emphasized (McNeil & Popham, 1973).

In the absence of knowledge, or in the absence of general agreement on what was known about effective engagement in teaching practice, the personal qualities of the individual quite naturally took on special importance. This perspective should not be viewed as unique from that in other fields when trustworthy knowledge is not available. In the field of medicine, for example, when little was known about many ailments and even less was known about effective treatment, bedside manner and related human qualities played a much more important role than they do today. As the knowledge base relating to medical practice qualitatively advanced, people became less concerned with the personal characteristics of their physicians and more concerned with their

professional knowledge and ability to properly diagnose and treat physical problems.

The Behavioral Performance of Teachers: Research and Practice

The decade of the 1960s brought a major change in the dominant research paradigm employed for studying effective teaching. The emphasis shifted from a major interest in personal characteristics to primary concern for teacher behavior and actual performance in school classrooms. This is not to imply that teacher behavior was totally ignored in earlier years. A modest amount of attention had been given to it, but much of the work involved abstract analysis and psychological classification and categorization. Neither did this shift to a concern for teacher behavior suggest that all concern for personal teacher variables was abandoned. It was simply one of primary emphasis; fewer studies continued to examine teacher characteristics outside the classroom and more studies came to examine teacher behavior inside the classroom (McNeil & Popham, 1973). Referring to the dominant approach to research on teaching prior to the 1960s, Medley and Mitzel (1963) reported in the first *Handbook of research on teaching:*

> Certainly there is no more obvious approach to research on teaching than direct observation of the behavior of teachers while they teach and pupils while they learn. Yet it is a rare study indeed that includes any formal observation at all. In a typical example of research on teaching, the research worker limits himself to the manipulation or study of antecedents and consequents of whatever happens in the classroom while the teaching itself is going on, but never once looks into the classroom to see how the teacher actually teaches or how the pupils actually learn. (p. 247)

In the late 1950s, however, Marie Hughes and a number of her colleagues at the University of Utah received support from the United State Office of Education (USOE) to undertake research that would help define and describe good teaching and the process by which it could be reliably determined.

Hughes (1959) held the view that teaching was an interactive process, and the teacher-student relationship in the classroom had a reciprocal character. Her work thus led to a description and analysis of teaching behavior that was based in patterns of interaction between teachers and pupils in actual classroom settings.

Shortly after this work was underway, other researchers, such as Ned Flanders, Bunnie Smith, and Arno Bellack, also began to enter classrooms with a focus on the dynamics of classroom interaction. Though partial attention was given to student behavior, the primary variables of interest during this early work were those associated with teacher behavior. Among the various teacher behaviors to be studied, major attention was given to teacher talk (Flanders, 1970). Various analyses were applied to teacher discourse, and although the general approach was primarily descriptive, the value orientations that inevitably became a part of the work were too easily translated into prescriptive statements.

But was more or less teacher talk a mark of effective teaching? The evidence was simply not there, because the issue of what constituted effective teaching was generally not taken very seriously. Nevertheless, without knowing how or in what way the awareness and use of Flander's analyses of teacher talk and student talk might lead to effective teaching, a number of teacher educators came to include this work in their preparation programs. The studies of teaching and the practice in teacher education in the 1960s can be generally characterized as increasing their focus on teacher behavior in classrooms but generally neglecting the serious criterion problem of relating descriptions of teacher behavior to a clear conception of effective teaching.

The research of the 1970s brought a change in the tendency to slight the effectiveness criteria, and it also gave rise to the third and most recent

paradigm for studying effectiveness in teaching. The shift in approach could be attributed in part to two classic studies of the 1960s, two studies that received enough attention to truly shake the research on teaching community; interestingly enough, neither of the researchers doing these studies entered classrooms or acquired any data whatsoever about teacher behavior. These researchers were Coleman and Rosenthal.

Coleman's sociological study examined school characteristics and their relationship to student success as indicated by a variety of measures, including students' test performance (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, & York, 1966). Because it showed that the bulk of the variance relating to student success could be accounted for by factors other than classroom variables, Coleman's work came to be interpreted as showing that teachers made little if any difference. Needless to say, this finding was jolting, but, more importantly, it challenged the research on teaching community. Jere Brophy, Tom Good, and Bruce Biddle, for example, found this interpretation of Coleman's findings counterintuitive--it simply did not make sense to think that teachers didn't make a difference to student learning. So they devised a means of estimating average mean gain scores for students in elementary classrooms (using standardized achievement test results) and then identified teachers who consistently produced student gains that were substantially above that which would be predicted. They studied these teachers and found that they behaved in some consistent ways that distinguished them from their more average colleagues (Good, Biddle, & Brophy, 1975).

At this same time, researchers with the Beginning Teacher Evaluation Study (BTES) conducted in California also began to identify various teaching performances that related to student learning, as did Gage, Stallings, Clark, Peterson, Anderson, Evertson, and others who were searching for teacher

behaviors that appeared to correlate with pupil learning gains. But these early studies, in the main, seemed to produce generally obvious results that teacher educators already knew: Time on task was important to learning, teachers who involved youngsters in meaningful activities could keep them engaged for longer periods of time, teacher-provided instruction was more important to learning than instruction provided through seatwork or by other students in the classroom, and so on (Fisher, Berliner, Filby, Marliave, Cahen, Dishaw, & Moore, 1978). Though all of the findings were not obvious, they were not sufficiently powerful to generate great excitement in the field of teacher education. Nevertheless, the research did call Coleman's interpretations and findings into question, and direct evidence was obtained that teachers not only differed, but made a difference to young children's learning of the basic skills in reading and math as measured by standardized paper and pencil exams.

The other major study of the late 1960s that stimulated change in the teacher effectiveness research of the 1970s was the Rosenthal study of teacher expectations. Without entering the classroom, Rosenthal examined pupil learning gains that were apparently achieved after he and his colleague told teachers that, on the basis of an examination, particular youngsters were likely to make rapid strides academically when in fact those children were selected at random. The Oak School Experiment that Rosenthal conducted in 1964 (Rosenthal & Jacobson, 1968) received popular acclaim but was also heavily criticized on methodological grounds. Nevertheless, the work raised the issue of teacher expectations and the extent to which teacher judgment and teacher thinking (about particular youngsters, in this case) might also affect pupil learning. This possibility soon came to receive more attention.

Psychologists in addition to Rosenthal explored expectation effects not only in schools but in animal laboratories as well. Graduate students required to train rats as a part of their program of psychological studies were frequently told that their class would be divided and half of them would be asked to train slow rats and the other half would be asked to train the fast, apparently smarter rats. The rats did not really differ in ability, of course, and the psychologists were simply inquiring further into the expectation questions raised by Rosenthal. Although the learning tasks and training procedures were typically the same for both sets of trainers and rats, the general results were surprisingly different. The group of rats considered to be "smart" learned significantly faster than the rats considered to be "slow." Unfortunately, like Rosenthal, researchers in the first studies did not observe or look for potential teaching differences that might have occurred during instruction.

In response to these rather powerful and unexpected results, some researchers did have the presence of mind to ask the "teachers" to describe their instructional approaches and techniques--what they did and why. The responses obtained from the logs and post hoc interviews were enlightening and provocative. Trainers of the "smart" rats said things like, "When the poor little fellow didn't learn, I knew that I had to be doing something wrong; after all, he was supposed to be a smart rat. I knew that I had to try a modified approach to teaching, encourage him to take just a few more trials, or modify the reward provided when he came closer to doing it right." In contrast, the trainers of the "slow" rats said things like, "When the poor little fellow didn't learn, I felt sorry for him; after all, he was slow, and I knew that I just had to be patient. Pushing him too much would be unfair and might

have negative effects, so I let him rest occasionally. You could tell when he was getting tired" (Rosenthal & Jacobson, 1968).

Although educators are well known for commenting on the lack of transfer from animal research, the implications of these and related studies were clear. What teachers thought, as well as the teaching behaviors related to this thought, needed to be further examined, expecially as both related to effects on student learning. The work of the late 1970s and early 1980s has reaffirmed this position. The predominant paradigm now focuses on teacher judgment and decision making; teaching performance alone is viewed as insufficient for characterizing effective teaching.

There are a number of other important reasons for the shift from teacher behavior to teacher thinking and judgment, however, and it may be helpful to use several of the earlier studies of teacher behavior to illustrate them. Consider the implications of two separate lines of research on effective teaching behavior: the work of Mary Budd Row and the work of Jacob Kounin. Mary Budd Rowe's studies (1974) indicated that when teachers ask youngsters thought-provoking questions during science lessons, they frequently do not give those youngsters sufficient time to think about the question and frame an appropriate response. Further, Budd Rowe's work showed that teachers could be trained to adjust their "wait-time" behavior and could, in turn, obtain qualitatively better responses from pupils. It was somewhat disappointing and perplexing to Budd Rowe, however, to find that the teachers trained to increase their wait-time behavior only maintained this performance skill for a relatively short period. When the researchers returned after time away from the classroom, they found that the trained teachers had reverted back to their old behavior; in general, they were again asking questions too quickly and not giving students sufficient time for qualitatively better thinking and responding.

At about this same time, though in a different location, Jacob Kounin was studying teacher behavior that appeared related to student off-task behavior. He found that when teachers failed to move their instruction along at a relatively brisk pace, youngsters in the class were apt to become bored and subsequently engage in off-task behavior (Kounin & Doyle, 1975). Thus at a very general level, one could interpret the Budd Rowe research on pacing to be prescriptive of slowing down performance, while the Kounin reseach on pacing was prescriptive of speeding up performance.

Although researchers obviously have no clear evidence of which approach is apt to be more correct than the other, it is likely that both sets of findings have implications for effective teaching. Teachers need to know and use knowledge related to the potential effects of their pacing decisions: Moving too quickly when asking thought-provoking questions can have the negative consequence of reducing quality thinking and responses on the part of students being called upon; moving too slowly, on the other hand, can have the negative consequence of increasing boredom and off-task behavior on the part of other students in the classroom. Knowing these two potentially negative possibilities, the teacher must obviously make judgments about what is too fast and what is too slow for the particular set of students s/he is working with at the moment. The next line of research questions thus needs to focus on issues of information processing. What factors should the teacher consider in order to make an informed judgment related to appropriate pacing decisions in the classroom? How might such judgment differ when the teacher is introducing new, rather than familiar, concepts? What variations in judgment and decisions are appropriate across different subjects and with different groups of students?

The point of this illustration is that research and practice in teaching have come to acknowledge the complexities of the teaching role as it is now practiced in school classrooms. Effective research and practice in teaching require the recognition that the role demands placed on the occupation of teaching are multiple and frequently competing. By the very nature of their charge, teachers must respond to a set of multiple demands and seek to maximize alternative desired outcomes.

Unlike researchers, teachers cannot select a single goal, ignore the others, and attend only to factors that might optimize the attainment of the single goal. If the demands of teaching were such that a teacher had one goal (e.g., achievement in arithmetic) and one pupil, it might be possible to profit from research on behavioral performance alone, although there is reason to be doubtful here as well. But the point is that because teachers have, in fact, multiple goals and multiple students, they are prohibited from optimizing outcomes. Instead, they are required to continuously exercise judgment regarding the most effective and ethical means of maximizing gains across multiple goals and across multiple students. Time remains constant and attention to one student reduces the available time and opportunity for attention to other students; similarly, investment in attainment of one goal reduces the available time and opportunity for attainment of others. Teaching, therefore, is simply too complex for linear prescriptions about effective teaching behavior. The exercise of professional judgment is necessitated by the need to decide what, when, how, how long, and with whom are particular subjects and actions appropriate when seeking to achieve, simultaneously, multiple goals for many different students.

The research on teaching community was not alone in coming to realize that the behavioral paradigm was limited in terms of its prescriptive power,

however, for the teacher education community was also coming to realize the limitations of its behavioral emphasis. The competency/performance-based movement that swept the country across the late 1960s and early 1970s paralleled the behavioral emphasis in research on teaching (Gage & Winne, 1975). Everything worth knowing was broken down into discrete behavioral objectives that could be clearly specified, counted, and related to behavioral performance outcomes in teaching.

The specification of performance-based behavioral objectives went on with great enthusiasm across the late 1960s and throughout the 1970s until the lists became unwieldy and appeared to have no end. Teachers could indeed be trained to do most anything, but the endless lists of behavioral performances lacked coherence in terms of their overall relationship to the preparation of more effective teachers. Thus teacher educators as well as researchers began to raise questions about more appropriate knowledge and skills that should be made available to teachers.

The Professional Decision Making of Teachers: Research and Practice

It is important to note that research on teaching and practice in teacher education that emphasizes the cognitive aspects of teacher judgment and decision making has emerged quite recently. The National Institute of Education created the Institute for Research on Teaching (IRT) in 1976 and charged it with the advancement of research on the thinking and information processing aspects of teaching. Involving an interdisciplinary cadre of researchers and teacher collaborators,[4] the IRT designed and continues to conduct research

[4]Teacher collaborators are teachers who typically spend their mornings teaching and their afternoons working as full-fledged members of a research team.

that seeks to enhance knowledge and understanding of teacher judgement and the numerous factors that influence decisions and actions in teaching. The IRT is also responsible for training additional researchers who can become qualified to conduct this relatively new line of inquiry. Researchers at the Institute for Research on Teaching are now pursuing questions related to the following areas of study:

1. the information teachers use and interpret as they diagnose and prescribe remedial interventions for youngsters with apparent reading problems;

2. the knowledge and information teachers use in selecting the content they come to cover during mathematics lessons;

3. the different instructional decisions and actions that are taken when teaching lower-level courses in mathematics versus more advanced courses;

4. the knowledge and information teachers draw upon and apply in planning and conducting lessons intended to improve youngsters' writing abilities;

5. the insights, perceptions, beliefs, and actions of teachers who appear to work most effectively with problem youngsters;

6. the knowledge, information processing, and actions teachers employ when teaching important concepts in science, reading, and language arts;

7. the insights, beliefs, and information teachers use when emphasizing student learning of appropriate classroom conduct and deportment;

8. the perceptions and interpretations teachers from various subcultures employ when interacting with youngsters of diverse ethnic and social backgrounds; and

9. the knowledge and perceptions prospective teachers bring to and acquire from their own formal preparation as teachers.

The thrust of all these lines of inquiry is (1) to better understand the complex information processing that occurs in teaching and (2) to trace its antecedents and potential consequences for teacher and student learning and action.

Work underway at the Institute for Research on Teaching and in other institutions across the nation and world appears to hold promise for

significantly greater understanding of the complex demands and requirements of teaching. Recent findings have been reported and reviewed and have received widespread attention for their apparent contributions to better understanding and improvement of teaching practice (Brophy, 1981; Clark & Yinger, 1980; Duffy, 1981). But the existing knowledge base is understandably small at this time, since the new line of research is both recent and limited by modest investments of human and financial resources. The situation will, I hope, change in coming years as the importance and sophistication of research on thought and action in teaching becomes better understood.

Although advances in the practice of teacher education should be strongly influenced by the accumulation of the empirical knowledge gradually being acquired on the cognitive aspects of teaching, teacher educators need not depend totally on available research evidence. Like researchers, thoughtful and analytical persons concerned with teacher education have become aware of the limitations of overly simplistic, technical, and behavioral orientations toward teaching.

The Emerging Profile of Effective Teaching: An Introduction

The observations that follow are meant to stimulate thought and discussion relative to increased effectiveness of schooling, teaching, and teacher education in the United States. The argument is made that today's schools have come to need *professional* teachers if they are to better serve the public that supports them. Similarly, today's teachers desperately need the capacities of professionals if they are to realize sufficient rewards from teaching and cope effectively with demands for school improvement. In order to remedy the acknowledged problems of public education, the technician role that has been assigned to and assumed by teachers and the technician training that has

been provided by schools and colleges of education need to be changed. Although contemporary discourse among teacher educators includes references to preparing "professionals," the content and process requirements of most preparation programs suggest that the concept of "professional" is either not well understood or is simply used as rhetoric to achieve an illusive sense of status and importance. This section begins, therefore, with a description of the requirements of professional work.

The remaining portions of the paper address the reasons why professional teachers are needed. The argument is made that the American public has come to hold multiple expectations for schools. These expectations have not been satisfactorily met in the eyes of the public, and a general disillusionment with the education establishment has resulted. Further, most attempts undertaken to remedy the apparent problems of schools have been basically flawed; they have slighted the centrality, importance, and integrity of teachers and teaching. An unanticipated consequence of the top-down, management-dominated school-improvement effort for today's career teachers has been a decrease in their sense of responsibility for the outcomes of schooling and a loss of satisfaction in their work. Facing an already difficult and increasingly complex assignment and then denied the intrinsic rewards that come from self-initiation, problem solving, and the exercise of professional judgment, teachers look more and more to extrinsic rewards and alternative employment.

The final section of the paper addresses the needed changes that must occur in teaching and teacher education if teachers and teacher educators are to improve the functioning of schools and concomitantly attract, prepare, and retain qualified professionals to work in them. The case is made that school improvement is dependent upon the professionalization of the teacher's role, and such professionalization cannot be realized until teacher education

programs change their predominantly technician-training approach to that of professional preparation.

The Requirements of Professional Work

Technical teacher training versus professional teacher education. The claim that past and present practice in teacher preparation is primarily directed toward technical training and that future practice should come to be directed toward professional education must be elaborated if the reader is to critically examine the underpinnings of the assertion. At the base of the argument is the distinction between technical and professional work.

Technicians, by definition, are specialists in the practical details of an occupation. They acquire their practical know-how from on-the-job training that is relatively brief and typically facilitated through apprenticeship arrangements. Technicians are prepared to follow the prescriptive directions of engineers or managers who provide oversight for the technical performance they provide. Thus prospective teachers receive technical training for teaching when the predominant portion of their pedagogical studies is composed of on-site field experiences, how-to-do-it methods courses, and practice teaching. One or two discrete courses in foundations (be they psychological, sociological, or philosophical) do not counterbalance the heavy emphasis given to the technical training that presently encompasses the bulk of the study in education required by typical teacher-training programs.

Experience suggests that contemporary teacher training emphasizes the need to learn and demonstrate smoothly orchestrated behavioral routines in rather predictable classroom environments: for example, how to write acceptable objectives, usually implying form, not substance; how to design a unit or lesson plan without deep, prior knowledge of a student group; how to be

efficient in the use of time and keep distractions and transition time from one teaching activity to another at a minimum; how to prepare bulletin boards and operate various projectors; how to organize the classroom and arrange student working groups; how to call on students and keep order; how to correct, grade, record, and display students' work; how to adjust to school routines; and, how to get along with one's peers, especially the supervisor or principal. The emphasis tends to be on practical know-how.

This heavy emphasis on practical technique conveys to the prospective teacher (perhaps unintentionally) that knowledge and decisions about highly important matters will be left to someone "higher up" in the system. Contemporary teacher training appears to give meager attention to the need to learn and apply serious thought and analysis for making difficult judgments under conditions of uncertainty: for example, deciding on important and specific content that must be purposefully selected from a wide array of content possibilities; deciding how much instructional time each content area might deserve under varying conditions; arranging content into a logical and/or psychologically intriguing sequence for diverse groups of learners; and selecting from and deciding upon various means of monitoring student progress so that effective feedback and subsequent decisions regarding new or revised learning tasks can be appropriately related. Surface attention to the in-depth knowledge required for exercising sound judgments on such matters implies that the real decision makers are the specialists, publishers, and administrators who determine schedules, create curriculum guides, prepare and select textbooks and tests, and devise management systems for teachers. The exercise of *teacher* judgement, within the broad policy framework of standard curricula and instructional practices, receives insufficient attention. Thus teachers come

to enact the role of technician, a role that requires them to follow the prescriptive directions of managers.

In addition, as with most technical training, the training period in pedagogy is relatively brief--three or four courses for prospective secondary teachers in addition to their practice teaching. Though admittedly more for elementary than secondary teacher candidates, the investment and time required for a college student to pick up the additional course work needed for obtaining a teaching certificate (beyond the standard major and minor requirements expected of all college students) is clearly small. It is not uncommon, in fact, for education programs to advertise their modest academic requirements and the ease of program access and completion. Many even point out and take pride in the fact that their preparation is obviously useful for many other occupations, thus implying that their knowledge base is not one of in-depth specialization for teaching in schools.

Professionals, in contrast to technicians on the other hand, possess a broad body of specialized knowledge and skills that are acquired during a prolonged period of education and training. Drawing from their broad specialized knowledge base, and guided by general principles, propositions, and ethical commitments, professionals exercise judgment and make decisions that apply to the unique and particular situations they encounter in practice. Professionals therefore accept responsibility for making decisions that are in the best interest of the members of society they serve. Professionals realize that they have autonomy of judgment regarding their performance within the general context of regulations and policies set by the institutions society creates for the facilitation of their work (Schein, 1972). A professional education, therefore, is characterized by three important qualities: (1) it provides students with a broad, in-depth, and specialized knowledge base that must be

acquired through long and intensive academic preparation; (2) it structures a set of requirements and a social milieu that communicate an exceptionally serious commitment to the members of society to be served and to the standards and codes of conduct that must accompany the professional work itself; and (3) it focuses on the ways and extent to which professionals have authority and responsibility to make and act upon their own decisions, within the context of the social institutions created by their work.

A professional education for teachers, therefore, would necessarily include serious attention to the breadth and depth of the knowledge base related to teaching, learning, and schooling. It would also include general knowledge regarding the purpose and operation of various education-related systems (i.e., not just classrooms and schools, but other social entities like communities, families, and peer groups). It would include major attention to principles, theories, and propositions that the professionals should draw from and apply to the variable, particular situations they will encounter in practice.

The standard "but there is not enough time" response that is typically used as a scapegoat for why this is not the case in teacher education simply does not hold. Regardless of how little time happens to be available for initial preparation, it could be used to begin professional education, which could be continued following initial certification, rather than substituting it with technical training. Certainly, it is possible. But the question still remains: Is professional education really needed?

Why teaching professionals are needed. Professional teachers who have in-depth knowledge about education and pedagogy, a serious commitment to their work, and a clear understanding of their authority and responsibility to make and act on important decisions are needed because teachers cannot effectively

cope with the public's multiple expectations and the unique needs of diverse youngsters by continuing to assume a technician's role. Although the argument is somewhat detailed, it must be considered in light of past and present expectations, problems, solutions, and failures in the functioning of America's schools.[5]

The Functions of Schools

Over the course of the past two centuries, United States citizens have come to expect public schools to serve four primary functions: facilitation of (1) academic learning, (2) social integration, (3) custodial child care, and (4) personal and social learning. While these functions have emerged over time, there have been persistent expectations for teachers as the primary agents for achieving them. So sure are Americans of the appropriateness of these functions that when there is public dissatisfaction with schools, it is attributed to their failure to achieve one or more of these functions at an acceptable level. There has never been a realistic reconsideration or redefinition of this complex set of functions and the numerous tasks that accompany them (Sizer, 1973), though people regularly decry the fact that schools are attempting to do too much.

When formal schools were organized during the Colonial Period, the expectations for teachers were relatively clear. The clientele were primarily white males from families of the wealthy, learning to read for purposes of studying the Bible and learning "to figure" for purposes of computing their

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[5]This argument was developed by Judith Lanier, Susan Melnick, and Robert Floden as part of their planning for major revisions in the professional studies component of MSU's teacher education programs.

plantation and business profits. There was little or no controversy over limiting public school teaching to these "basics."

But following the American Revolution and the Constitutional Period, a second legitimate purpose of American schooling emerged. Stimulated by Jefferson's views, education was expected to serve the noble purpose of removing artificial barriers determined by birth and social background and to enable one to serve the public good. Through appropriate schooling, "those persons whom nature hath endowed with genius and virtue" (Tyack, 1982) could achieve the social status that matched their talents. This meritocratic view of the American school as an instrument for achieving equality of opportunity gained momentum and strength over time. Horace Mann held this view so strongly that he described formal education as "a great equalizer of the conditions of men, the balance wheel of our social machinery." He believed that adequate public schooling "does better than disarm the poor of their hostility toward the rich: It prevents being poor" (Husen, 1979).

The advent of the child labor laws of the mid-1800s brought more and more of America's poor children out of the factories and into the schools. The parents of the poor were eager to have their children acquire learning that could get them out of the bondage of poverty. But they also had a very practical reason for supporting their children's school attendance. Since both parents of most poor children usually worked long hours for low wages and they had now lost the income from the labor of their children, the public school was needed to provide free child care. The school could serve both educative and custodial functions; the custodial function meeting parents' immediate needs and the educative function their long-range aspirations for their children. By the early part of this century, then, the schools were seen as serving at least three major functions: providing instruction in basic

literacy, providing an education that would encourage upward social mobility, and providing safe and healthful child care for working parents.

But in the early 1900s, still more came to be expected of the schools. Recognition grew that children were more than simply short adults. Children were complicated beings and their development deserved unique study and special consideration. The progressive education view brought a shift in the subject-centered notion of schooling to that of a child-centered notion. Schools and the educators in them were to provide knowledge and skills that would meet the child's "real" needs. The "life adjustment" of each youngster was to be carefully considered as schools sought to match instruction to the appropriate level of each child's development.

However, added pressure for response to the uniqueness of youth was not the only force raised at this time. Dissatisfaction with America's apparent inability to live up to her stated democratic ideals led to increased pressure on schools to help the country realize the promised benefits of democratic life. George Counts (1932) and other social reconstructionists pushed for the schools to create "a new social order" rather than to adjust to an existing imperfect one. Two decades later, Robert Hutchins (1953) and other anti-pragmatists brought widespread attention to another set of expectations that was formerly implicit in McGuffey's *Reader*. The teaching of values came to be consciously accepted as an appropriate function of the schools, whether it was the character, work, thrift, family, and national pride values exemplified in McGuffey's book or the "habits, ideas, and technique that they need to continue to educate themselves" urged by Hutchins. Proponents of this view pressured schools to go beyond the expectations related to basic skills, child care, and escape from poverty. In short, these collective pressures brought

an additional expectation that the schools could and should foster constructive personal development and social responsibilty.

Thus by the middle of this century, the American public held a set of diverse and high expectations for its schools. These public institutions were to assume responsibility for assuring that all of America's young people (1) were helped to become functionally literate; (2) were helped to become sufficiently knowledgeable and skillful that they might avoid poverty and participate fully as equal members of the social order; (3) were taken care of in their parents' absence in a safe, healthful, and constructive manner; and (4) were helped to acquire habits of personal development and social responsibility that would result in a continued and dedicated effort to improve themselves and existing social conditions. Since this massive charge was accompanied by public sentiment that the United States could realize whatever goals it set, there was little doubt that the schools could rapidly and successfully achieve these noble ends.

The Problems and Disappointment: Recent Criticisms of Schooling

But the post-war baby boom had obvious and massive consequences for American schools and the education community. The shortage of qualified professionals, school buildings, and adequate resources drove the education establishment into a frenzied set of responses to accommodate the demand. The knowledge explosion brought more things to be taught to greatly increased numbers of students. The population shift to the cities, combined with rapid changes in traditional institutions and human values, left the schools, like the society that created them, in a state of confusion. And in the midst of unprecedented growth and social change, the schools were not able to mobilize effective responses to their multiple charges.

With little opportunity to reflect on the causes or inherent nature of their problems and no organized way of responding to the public's frustration with their increasingly apparent failures, professional educators watched their respectability and credibility deteriorate.

Critics such as Bestor (1953) and Rickover (1959) decried the deterioration of basic skills and intellectual rigor on the part of both students and teachers. The spectre of Sputnik I convinced the public that the critics were probably right. Children were not learning academic subject matter up to the standards of the changing society, and thus the schools were not performing this central function. Other criticisms of school failures also came to public attention.

With a growing recognition that schools operate within a sociocultural context, it became clear that the school was not succeeding as the great social equalizer of opportunity. As a status-providing, liberating instrument, the school was failing to keep its promise of potential success to unlimited numbers of young people. Some critics claimed that the schools were purposely working against the American dream of equal opportunity. Instead, they were reproducing the existing social and economic order--operating to sort and sift young people in ways that would distribute status and economic benefits and maintain social and economic inequities.

The school's ability to deliver healthy and safe custodial care also became problematic. As social rebellion, drugs, vandalism, and violence became more prevalent in society, they became more common in schools. Educators were unable to prevent or stop the increasing number of disruptions and problems. The Gallup polls consistently showed that the public's major concern with schools and teachers was their inability to adequately provide for students' personal safety and welfare.

The schools' inability to assure the development of personal competence and social responsibilities also became clear. Unable to provide mastery of basic literacy skills, they could hardly prepare young people to become independent, critical, and responsible citizens, ready and able to exercise their rights and duties as members of a complex, democratic, and pluralistic society.

The changing nature of families, religious institutions, community life, and the mass media competed with the public's increased dependence on the schools for better social understanding, values development, and career education. But the failure of the schools to seek a balance with competing factors and to achieve their noble goals was pervasive, and the subsequent disillusionment was felt and generally recognized.

In the 1970s and on into the 1980s, the public seemed to be abandoning the public schools. Accompanied by growing problems in the economy and a major decline in population growth, the schools' supporters began to cut back on the base of tax support. Community bond and millage requests were rejected in increasing numbers, and enrollments in private schools grew as enrollments in public schools declined.

Attempts to Solve the Problems: The Expert Response

Through this period of criticism of the public schools, attempts to improve the schools were made on local, state, and national levels. But the public responses to the problems of schools typically had two important characteristics. First, although various groups of experts were asked for proposed solutions to the problems of schooling, these groups did not include classroom teachers. And, second, the solutions proposed involved teachers only as technicians to carry out the solutions devised by the experts.

Consider those who typically spearheaded the public responses to problems of schooling: private foundations, the federal government, or publishing companies. They would bring together a panel to devise plans for school and educational reform, a panel on which teachers were seldom members. While the means of getting teachers to carry out the plan varied, the passive role assigned to teachers did not. Government demanded teacher compliance through legal mandates and regulations. Publishing houses devised "teacher-proof" curriculum materials to ensure that teachers would faithfully follow the model for reform. The strategy of expert solution and teacher implementation can be seen in responses to failures of schools in each of the four major functions.

Criticisms of schools' performance in teaching academic subject matter were widely publicized, and the responses to these criticisms often had comparable visibility. Many of the curriculum development projects sponsored by the newly formed National Science Foundation boasted Nobel laureates on their steering committees. If the committees also included public school teachers, their presence was scarcely noticed. In science education, top scientists were assembled to redesign the teaching of elementary and secondary school science.

In mathematics, the influential Cambridge conference specifically excluded teachers from deliberations about the best way to redesign mathematics teaching. The assumption was made that whatever curriculum the university mathematicians devised could be taught with minimal additional teacher training. But the conference planners' hope to eventually deal with the practical problems of teacher education was, unfortunately, not realized. Instead, the conference recommendations were incorporated into curriculum projects, and the resulting books were then adopted by school districts with only limited provision for problems a teacher might have teaching the new curricula.

Likewise, concerns related to equal educational opportunity were often attacked through the development and attempted implementation of plans designed by experts. In early civil rights litigation related to education (beginning with Brown v. Board of Education), judges heard expert testimony before deciding on the appropriate way to remove sources of racial and ethnic discrimination from the school system. Teachers played little part in developing these solutions, but were expected to carry through the spirit of legal mandates in their newly integrated classrooms.

More recently, civil rights were explicitly extended to the handicapped. The major education law extending these rights to the area of education, PL 94-142, was developed through consultations with various expert groups, with teachers having little say. In fact, teachers have no rights specified in the law, in contrast to parents, students, and school district administrators. Yet teachers are expected to implement each of the specific provisions of the law.

Another aspect of the public response to school failures to promote equity were the numerous government and foundation-supported efforts to improve the education of the poor (e.g., Title I of the ESEA of 1965). Federally funded and foundation-supported curriculum development projects were designed to give teachers something to teach to the so-called "disadvantaged"; again, experts were called in and given support for research aimed at finding out how teachers should teach those materials. But, again, no systematic effort of relating the findings to inservice or preservice teacher education was provided.

The problem of lack of proper care for students was also attacked at the national level by devising expert solutions and telling teachers to implement them. The "safe-school" studies attempted to determine what approach should

be taken to reducing school violence. The federal government also required teachers to implement their approaches to improving the health of students through government-designed health and nutrition programs such as those that were part of Projects Head Start and Follow Through.

Attempts to improve the way in which schools develop personal and social responsibility often fall into the area of social studies education and health education. The federally sponsored development of the curriculum, "Man: A Course of Study," embodied an attempt to give teachers specific ways for teaching a particular set of values. In this case, Congress disavowed the government's intention to promote this set of values in all classrooms. Large sums of money were poured into development of drug-education curricula to give students a stronger disposition to take responsibility for their own actions. Here, as for the other functions of schooling, teachers were expected to be technical implementers of someone else's ideas for improving the schools.

Though these examples have focused on the national response to problems of schooling, the same phenomena have been observable at state and local levels. In each case, teachers are presumed to lack good ideas for school improvement but to have the willingness and ability to carry out reforms devised by others.

These attempts to improve schools have had disappointing consequences at best. Rather than list the failures in each area, a representative description of the failure in the area of academic learning will illustrate the broader pattern. Talking about the curriculum reform movements in science, Welch (1979), concluded:

> In spite of the expenditure of millions of dollars and the involvement of some of the most brilliant scientific minds, the science classroom of today is little different from one of 20 years ago. While there may be new books on the shelves and clever gadgets in the storage cabinets, the day-to-day operation of the class remains largely unchanged. (p. 303)

In other areas, as well, the reform movements are seen as failures. While the cause of the failure is variously attributed, it is clear that the simple model of teacher implementation of experts' solutions is inadequate and inappropriate to solve the apparent problems of schooling.

The Problem with the Improvement Strategy: The Inverted Pyramid

The public's responses to the problems of schools have generally followed a model in which decisions are made by some central authority, then passed along the chain of command until they are carried out by teachers. Like foot soldiers in the army (and especially in the trenches), teachers' have been expected to follow orders, not to make decisions. In this model, questions of school improvement center around questions of (1) what teachers should be told to do and (2) how they should be made to do what they are told. The events of recent history have shown that this model operates poorly.

A more effective model of school improvement might center around questions of (1) what knowledge, commitments, and support systems teachers need to make schools better able to fulfill their functions and (2) how they could share authority and responsibility for the improved functioning of schools. The tell-teachers-what-to-do-and-see-that-they-do-it model supports a technician role for teachers, rather than a professional decision-making role. This top-down approach to school improvement seems to contain an inherent set of disfunctions that consistently and predictably contributes to the inability of today's schools to effectively accomplish their noble ends. Such a possibility must be seriously considered.

The teacher-as-technician model assumes that a hierarchical system of authority can be made to operate effectively in schools. This assumption may be in error since a number of the conditions necessary for an effective

hierarchical system of authority are simply not present in schools. In a successful hierarchical system, persons in positions of authority have (1) sufficient knowledge of the situation to formulate reasoned and constructive directives, (2) sufficient power to enforce the directives, and (3) sufficient resources and opportunity to provide oversight and instruction to those who must carry out the directives. Furthermore, those persons who are expected to carry out the directives must (1) be able to understand the directives, (2) be able to do what the directives require, and (3) see the directives as being in their own self interests as well as in the best interests of the organization. These necessary conditions are lacking and thus prohibit successful operation of the top-down authority structure in schools. The hierarchical authority system that predominates in today's schools is referred to in the literature as "bottom-heavy" and "loosely coupled." The notion of "bottom-heavy" means there are many more persons at the bottom of the organization than in the middle and at the top. Although this notion is reasonably well understood, the magnitude of this bottom-heavy characteristic is often underestimated.

When people imagine or illustrate the top-down, bottom-heavy system of authority that exists in schools, they typically envision something like the illustration on the left of Figure 1. The problem with such a view is that it does not capture the magnitude of the bottom-heavy reality. If the bottom-heavy reality were conveyed by an illustration showing the actual proportion of teachers to administrators, it would look like the illustration on the right.

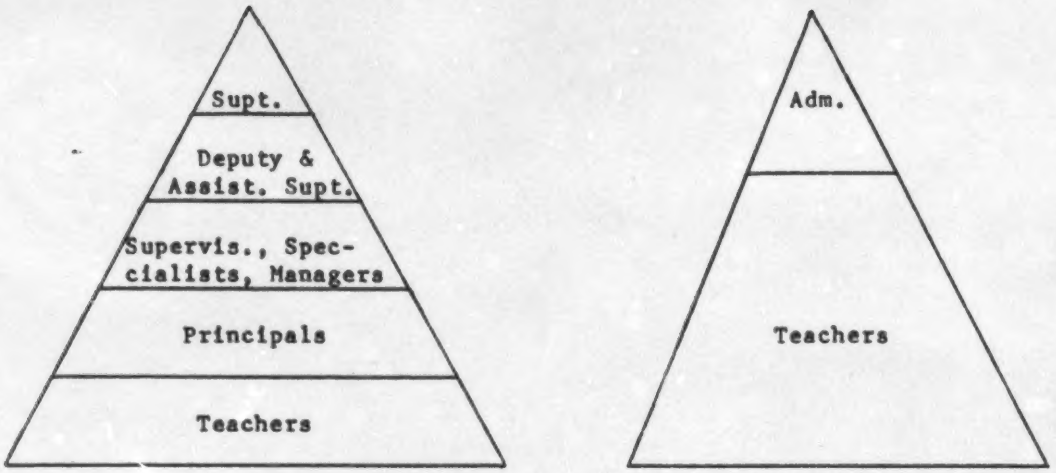

Figure 1. The bottom-heavy reality. Right-hand portion is drawn to scale, indicating proportion of teachers to administrators in 1970 (122,000 administrators and supervisors to 2,131,000 teachers).

One can readily see that the small number of authorities (administrators and supervisors) compared with the large numbers of teachers prohibits the authorities from having sufficient knowledge of the many teaching-learning situations to formulate specific, reasoned directives. The problem is exacerbated by the fact that most teachers are isolated in separate classrooms with diverse groups of youngsters. Centrally made directives thus become difficult, if not impossible, to enforce. If the public were to be even partially assured that directives were being followed in practice, the number of supervisors or administrators would have to be increased many times. The magnitude of the bottom-heavy system makes the cost of adequate regulation and monitoring compliance obviously prohibitive.

"Loosely coupled" means that the chain of command has many loose links. It is difficult for principals to closely monitor what teachers do in their classrooms. Hence, teachers may act quite differently than their principals think, whether through resistance or because the requests made of them are unclear. In a system in which rewards are linked to seniority rather than

performance, the principal has few ways to enforce requests, even if knowledge about each classroom were increased. Similarly, the strength of control of superintendents over principals or state education agencies over school districts, is much less than the military metaphor suggests. Decisions made centrally may or may not be carried out by classroom teachers.

Second, even if teachers were eager to do no more than carry out explicit administrative directives, that option is not usually open to them. The directives teachers receive are often too vague to give specific guidance for classroom practice. Since the directives cover a wide variety of different areas and are designed to achieve multiple goals, they also often conflict with one another (e.g., as when teachers are told to spend more time on direct instruction at the same time they are told to increase the amount of testing and record keeping). When vagueness, multiplicity, and contradiction are coupled with the limited time available to carry out the multiple directives, it simply becomes impossible to follow orders. Teachers must choose for themselves which of the directives to carry out, and they must interpret the implications of the chosen directives in actual classroom practice. It is ironic that the use of a model based on teachers' following orders has led to a situation in which teachers cannot possibly just follow orders. The multiple, conflicting, vague demands cannot be blindly followed. Teachers must, and do, decide what policies to follow and how to interpret those policies. (For more thorough discussion, see Schwille, Porter, Belli, Floden, Freeman, Knappen, Kuhs, & Schmidt, 1982).

Finally, even if teachers could be centrally directed, it is unlikely that any central directive would be appropriate for all classrooms. Classrooms vary enormously in the characteristics of the students, of the teacher, and of the surrounding community. A directive that produces excellent results

with one group of students is unlikely to produce similar results with another. Rather than implementing a standard policy in all classrooms, a reform must be modified to fit the particulars of each classroom if the reform is to be broadly successful.

Thus I believe that there are serious flaws in the model of school improvement that is based on a hierarchical model of top-down authority directions. The school personnel system that predominates today can be described as bottom-heavy and illustrated with a pyramid drawing showing the teachers at the bottom and the chief central administration at the top. Decisions are made at the top and transmitted down the chain of command to be carried out by the teachers at the base of the pyramid. The natural interpretation of such a diagram is that the persons at the top are the most important, and the goal is to make the bottom parts of the pyramid best serve the wishes of the top.

This perspective on the schools can be changed by inverting the pyramid, placing classroom teachers at the top and administrators at the base (see Figure 2). In this view, teachers are regarded as the most important people, a portrayal consistent with the fact that they are closest to the children and must make decisions about what goes on in their classrooms. If well educated, teachers are also in the best position to assess needs and design educational strategies best fitted to the specific characteristics of individual classrooms.

With this changed perspective, administrators and supervisors would come to view their responsibilities somewhat differently. They would define their roles less as authority figures and more as capacity builders. They would work to enhance the professional judgment and capabilities of teachers as they carry out the important functions of schools through direct interaction with youngsters.

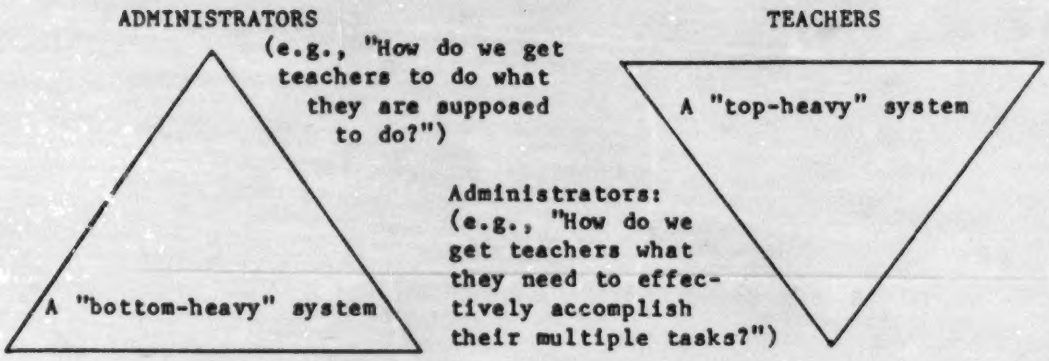
ADMINISTRATORS
(e.g., "How do we get teachers to do what they are supposed to do?")
A "bottom-heavy" system
TEACHERS
A "top-heavy" system
Administrators:
(e.g., "How do we get teachers what they need to effectively accomplish their multiple tasks?")

Figure 2. Bottom-heavy versus top-heavy systems.

Teachers *are* making decisions about the operation of schools, and renewed efforts to wrest those decisions from the hands of teachers and have them made centrally are bound to be futile and harmful. One of the clear problems of past attempts to improve schooling lies with the top-down model of change and the technician role assigned to teachers. It is not simply a matter of inadequate attempts to carry out the model, and therefore a new perspective on school improvement and teacher education must be taken.

The Requirements of Professional Teaching and Teacher Education

Three categories of important characteristics of teachers and schools are suggested: teachers' knowledge, teachers' capacity to make and act on decisions, and teachers' commitment to take their decision-making role seriously. Each of these categories describes how teachers and their schools must be to make the best use of the people who have the greatest impact on learners.

If teachers are to improve the functioning of the schools through bettering their classroom decisions, they need to have a firm understanding of classroom processes, their impact on students, and their relationship to the functions of schooling. Though many things contribute to good decision

making, in-depth knowledge of the factors and processes relevant to the alternatives to be considered is crucial. A decision made in ignorance or on the basis of meager or inaccurate information can hardly be expected to lead to the solution of difficult problems. To make better judgments about teaching academic subject matter, teachers must know about the subject matter, its pedagogy, and its relationship to the individual's role in society. Having in-depth knowledge about subject matter requires going beyond simple knowing about information that has come to be accumulated (e.g., empirical facts and various interpretations of them as they relate to certain topics like World War I, biological evolution, or Rennaisance art). Rather, knowing about subject matter requires rudimentary understanding of how knowledge is acquired in a particular field and how it evolves and grows as systematic inquiry and rules of evidence are applied and evaluated for their apparent integrity and value. It requires knowing that knowledge in a field is dynamic and knowing how continuing decisions must be made relative to priorities for learnings that are judged most basic and most needed by an ever changing society. Similarly, to promote social integration and educational equity, the teacher must understand past and existing problems related to equity, understand what would contribute to their solution, and what role the schools can reasonably play. And so on for the other functions.

To make better decisions, teachers not only need in-depth knowledge, but must also have the autonomy required to make decisions and to act on those decisions. It is argued that all teachers must make some decisions among the various competing demands placed on them. The value of these decisions will only be realized if teachers are permitted and encouraged to make important pedagogical decisions that go beyond what would be considered appropriate for just any smart, kind person who was following managerial directives. Teachers

need to be prepared for and expected to exercise informed judgments and make important decisions within the framework of broad institutional policy guidelines. Further, teachers need to know that their decisions will not be reversed or interferred with, except on the basis of very serious grounds.

The autonomy to carry through on decisions is particularly important in education since the short-term effects of teaching are uncertain and somewhat unpredictable. Hence, the temptation is great to call for a new strategy too soon just because the effects of the initial strategy are not apparent. Yet it is likely that the dedicated adherence to a given plan will be more effective in the long run than a series of different strategies. If teachers are to make such commitments to their decisions, they must know that they will have the right to continue with modest interference. To maintain this autonomy, it is helpful to have a community of colleagues who understand the difficulties in teaching and share the conviction that one must resist the temptation to change courses at the slightest provocation.

Finally, for teachers to be professional they must be willing and able to give proper weight to the important decisions they must make. It is difficult and time-consuming to make good decisions. It requires reflection on the particulars of the classroom situation and on the probable consequences of a course of action. Given the other constant demands of the job, a teacher must take the time and have the energy to reflect on decisons made and on decisions to be made. Doing this is bound to require more time outside the classroom than teachers are sometimes able to provide. Teaching becomes more than a nine-to-four job.

Teachers must constantly push to make the extra effort required to reflect on past performance and on the consequences of future performance. This commitment to careful decision making must also be a commitment to put

the needs of learners above teachers' personal advancement. The improvement sought is assessed in terms of the functions of schooling, and these functions do not place the personal welfare of teachers in the foreground. Hence, if teachers' decisions are to improve the way schools achieve their functions, they must also place those functions, and consequently the students and the community, ahead of their own personal interests. Collective teacher action, as well as individual teacher action, must come to emphasize these commitments so that the public recognizes this sincere concern for learning and schooling and becomes eager to provide the support systems needed to realize a truly professional role for teachers.

This picture of what it would take to use teachers' classroom decisions and judgments to improve the functioning of schooling has emphasized teachers' broad and in-depth knowledge, autonomy, and commitment; the concept that encompasses these characteristics is *professionalism*. To say that teachers should be professional implies, under this common definition, that teachers should be highly knowledgeable, autonomous, and committed.

Programs of teacher education that claim to prepare persons for professional roles, therefore, must adjust their offerings accordingly. More time than is presently available for teacher education must come to be systematically arranged. But time alone is not the key, since a five- or six-year training program could continue to afford preparation for a teaching role that is primarily technical in nature; an eventuality that will likely prepetuate the problems in American schools and continue to drive talented teachers into more intellectually challenging and responsible occupations. Practice in teacher education must come to afford opportunities to acquire broad and in-depth knowledge and opportunities to develop understandings and attitudes about teaching that foster a serious commitment to and responsibility for

informed teacher judgment and decision making. Pedagogical studies, such as the newly developed programs at Michigan State University, will increasingly reflect this professional orientation.

Summary

The needed research and practice that will most likely enhance teacher education in the future will be grounded in a profile of the effective teacher that acknowledges the professional requirements of the "school teaching" occupation. While some teaching requirements will always contain aspects of performance that are labor-like, craft-like, and artistic in nature, the research and teacher preparation programs of the future will increasingly focus on the knowledge and information-processing skills that are requisite to informed professional decision making. Such knowledge and skill will be related to the complex interplay of teacher judgments that are required for effective response to the multiple and diverse youngsters that attend school. In addition, the knowledge and skills that are deemed important to professional teaching will also acknowledge and reflect the multiple and competing functions that schools are expected to serve. By framing future practice in teacher education and future research on teaching on the requirements of professionals, educators and researchers should come to improve the effectiveness of schools and the public's conception of effective teaching.

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